# Before the House Energy and Tech Committee

**Public Comment of Kevon Martis, CMS Energy Customer- Director of Interstate Informed Citizen's Coalition, Inc.**
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**9/10/2013**

My name is Kevon Martis, 11917 Wegner Rd., Riga, MI. I am the volunteer director of the Interstate Informed Citizen's Coalition, Inc. of Blissfield, MI (IICC), a statewide bipartisan renewable energy citizen's advocacy group. In my role as director of IICC, I speak on behalf of hundreds of residents across the State of Michigan, many who are living on the front lines of industrial wind development that is a direct result of PA295. It was my understanding that MPSC staff would brief this committee on this Act. Further, it is my understanding that new energy policy legislation will be drafted in the coming months. Thus, I would like to offer some brief commentary regarding the PA295's track record.

> "The purpose of this act is to promote the development of clean energy, renewable energy, and energy optimization through the implementation of a clean, renewable, and energy efficient standard that will cost-effectively ...[among other things]... ... [p]rovide improved air quality and other benefits to energy consumers and citizens of this state."[1]

While these goals are laudable, there are significant flaws in the Act:

1. PA295 requires that qualifying renewable energy for the Act's 10% renewables mandate must be generated inside the State of Michigan. Judge Richard Posner of the Seventh Circuit Court of Appeals recently opined "**Michigan cannot, without violating the commerce clause of Article I of the Constitution, discriminate against out-of-state renewable energy**." This is a fatal flaw. Even as I speak, PA295 is depriving MI utilities, cooperatives and thus ratepayers of their constitutional right to acquire renewable energy from the lowest cost provider anywhere in the US.[2] Yet without the ability to mandate instate generation, the promise of renewable energy mandates resulting in instate jobs growth is now in serious doubt

2. PA295 falsely assumed that MI has a competitive wind resource. But inside MISO, Michigan is a high cost wind energy producer due to a regionally anemic wind resource. [3] NREL's 2012 Wind Technologies report states "**...PPA prices are generally low in the U.S. Interior, high in the West, and in the middle in the Great Lakes and Northeast regions. The large Interior region, where much of U.S. wind project development occurs, saw average levelized PPA prices of just over $30/MWh in 2011 and 2012.**"[4] A $30.00/MWh wind PPA would be a cost savings of more than 65% relative to Michigan's average wind price of roughly $80.00/MWh and far cheaper than even Michigan's current lowest priced instate wind PPA of $49.00.

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[1] http://www.legislature.mi.gov/documents/2007-2008/publicact/pdf/2008-PA-0295.pdf
[2] See attached briefs from James Fuscaldo, esq., on behalf of IICC as well as "The Commerce Clause and Implications for State Renewable Portfolio Standard Programs" by Clean Energy States Alliance.
[3] http://www1.eere.energy.gov/wind/resource_assessment_characterization.html
[4] http://www1.eere.energy.gov/wind/pdfs/2012_wind_technologies_market_report.pdf

3. Michigan's typical installed costs for utility scale wind of $2,200-2,550/kw[5] are far above IA's latest installed costs of $1,650/kw, to cite just the latest example of *MidAmerican's Wind VII* project approved in July, 2013 by the Iowa Utilities Board.[6] [7]

4. Since wind energy is intermittent and non-dispatchable, it cannot replace Michigan utilities' dispatchable generating plants' capital and fixed O&M costs. To guarantee a stable balance between supply and demand, Michigan utilities must maintain adequate dispatchable generation at all times. Since wind energy fails the dispatchability test[8], intermittent renewables can only replace the fuel costs associated with thermal generation-gas or coal fuel. CMS Energy concedes as much when they contend in their request for MPSC approval of their proposed Thetford Gas plant: "**The Project will also provide a fast-acting power, voltage, and regulation resource that can be used to stabilize Michigan's electric grid in an area close to the development of many intermittent wind farms.**" [9] Michigan's wind mandate did not obviate the need for new firm capacity. Even the relatively low priced Pheasant Run II contract at $49.00 can only save $25-35/MWh of coal or gas variable costs including fuel but none of the capital or fixed O&M costs of the requisite fossil generators. This is a substantial economic loss to ratepayers and flies in the face of the Act's stated purpose. Furthermore, tenuous federal subsidies and allowances not available to thermal generators support the low wind PPA prices which would otherwise need to be in the range of $100 to $150 / MWH to make the wind projects financially feasible.

5. Despite the Act's stated intent of improving "air quality", there is no requirement for MI utilities to demonstrate empirically that there has been any significant emissions avoidance directly attributable to PA295's de facto wind mandate. They are neither obligated to measure nor assign a value to emissions avoided within the State as a direct result of complying with PA295. Thus, neither policy makers, regulatory bodies nor ratepayers have any means of measuring the cost or benefit of any "air quality" improvements resulting from PA295's de facto wind energy mandate.

   Neither does the Act require MPSC or MI utilities to present comparative cost analysis of other known means of avoiding GHG, Hg and PM2.5 emissions. If so compelled, all evidence suggests that replacing existing coal generation with Combined Cycle Gas Turbines yields roughly 10 times[10] the GHG emissions avoided[11] per ratepayer dollar spent versus the existing mandate to add renewable energy to Michigan's existing generation portfolio. [12]Thus PA295 is in internal conflict at ratepayers expense. It implicitly assumes what is empirically false[13]: that the

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[5] See attached Renewable Energy Contract Spreadsheet from MPSC

[6] https://efs.iowa.gov/cs/groups/external/documents/docket/mdaw/mtk1/~edisp/195026.pdf

[7] It should be noted that this IA wind plant is being constructed by MidAmerican solely for out-of-state export but CMS Energy and Michigan ratepayers are currently prevented by PA295's unconstitutional instate generation mandate from accessing this relatively low cost renewable energy

[8] ....absent significant quantities of yet-to-be-discovered economical long-term energy storage.

[9] https://efile.mpsc.state.mi.us/efile/docs/17429/0001.pdf

[10] See attached brief from Dr. George Taylor, Palmetto Energy Research.

[11] CCGT has the added benefit of emitting essentially no PM2.5 nor Hg.

[12] Assumes $5.00 natural gas pricing

[13] National Academy of Sciences-"The reduction in CO2 emissions associated with the PTC/ITC is, however, small, amounting to about 0.3 percent of CO2 emissions from the energy sector in the Reference scenario. If the revenue lost as a result of the PTC/ITC is divided by the reduction in CO2 emissions, just under $250 in revenues are lost per ton of CO2 reduced. While this does not represent the social cost of reducing the ton of CO2 emissions (because

cheapest path to reducing coal emissions is by adding renewable energy (regardless of its lack of ongoing dispatchability) to our existing generation mix and yet demands no supporting evidence or cost benefit analysis. [14]

6. PA 295 contains another fatal flaw, namely that our utilities can avoid constructing new fossil generation via a combination of energy optimization and new renewable energy generation-in practice, utility scale wind. Thus the act requires an annual cost comparison between "new coal" and wind energy as if the utilities and ratepayers have an either/or choice: new coal or new wind. Yet on the matter of such Levelized Cost comparisons the US Energy Information Administration is succinct: "*The duty cycle for intermittent renewable resources, wind and solar, is not operator controlled, but dependent on the weather or solar cycle (that is, sunrise/sunset) and so will not necessarily correspond to operator dispatched duty cycles. As a result, their levelized costs are not directly comparable to those for other technologies (even where the average annual capacity factor may be similar)...*"[15],[16]

   It is a basic truth of energy generation: **absent practical and affordable storage, intermittent non-dispatchable renewables cannot be interchanged with dispatchable conventional generation. But the Act falsely assumes they can**.

   Thus, despite the declared intent of PA295 to improve air quality, Michigan ratepayers have thus been compelled to spend $2.5 billion on wind generation and new transmission to create a system with an effective annual capacity today of roughly 300MW-but with essentially no firm capacity-and thus no ability to permanently close any existing coal generator nor yielding any empirical evidence of any statewide air quality improvement from so doing.

   Yet that same sum of money invested in Combined Cycle Natural Gas Turbine plants like CMS' Thetford project could have permanently closed perhaps 2,500MW of aging coal generation, thereby slashing emissions from fully one half of the 9 coal plants identified by Michigan Environmental Council as the State's worst offenders with respect to GHG, Hg and PM2.5 emissions-and by means that could be empirically verified to have direct instate benefit. And in the event natural gas prices rise substantially, nuclear becomes the low cost emissions-free mode of generation.

   Further, this bogus LCOE comp between dispatchable and non-dispatchable generation also ignores the very real problem of the sharply different value of time-of-delivery relative to demand. (See footnote 14 below)

   Finally, (I am choosing my words deliberately here) PA295 has created ***pandemonium and terror*** in our rural townships. Recalls, referenda, lawsuits, conflicts of interest among

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revenue losses are not a dead-weight loss, as explained in Chapter 2), the fiscal cost per ton of CO2 reduced is high relative to other, more efficient approaches.", http://www.nap.edu/catalog.php?record_id=18299

[14] In fact, since energy does not respect state boundaries, one must wonder if Michigan renewable energy generation has ever displaced instate coal or gas generation or if any fossil generation so displaced occurred elsewhere in MISO. And it must also be noted that there is far less environmental benefit from displacing gas generation with intermittent renewables. But due to the flexibility of CCGT it is far more often on the margin, thus further diluting an already dubious benefit.

[15] http://www.eia.gov/forecasts/aeo/pdf/electricity_generation.pdf

[16] This bogus LCOE comp between dispatachable and non-dispatchable generation also ignores the very real problem of the sharply different value of time-of-delivery relative to demand. See Glenn Schleede http://scienceandpublicpolicy.org/images/stories/papers/reprint/High_Cost_and_Low_Value_of_Electricity_from_Wind.pdf and Dr. Paul Joskow http://economics.mit.edu/files/6317

elected and appointed officials, abandoned homes and devastated social relationships have become the grim reality inside Michigan's PA295 mandated wind plants. This is due to the disparity between those who host a turbine on their land with compensation and those whose land is used as a nuisance abatement zone without compensation via appropriation by zoning regulation. If it is true that all generation projects have an adverse impact on nearby residential values, then we need only look at the capacity density of impacted land with wind compared to dispatchable and dependable nuclear, coal and natural gas generation to understand why this issue is more prevalent with wind. Wind's real firm capacity value compared to nameplate rating is about 1/10 of its thermal counterparts, while causing industrial noise and visual pollution over more than 100 times as much land per nameplate MW. This means the industrial intrusion of wind is 1,000 times that of coal, nuclear and natural gas plants according to its ability to replace the need for them.

And as early as 1985 the US Department of Energy clearly established[17] the very real health impacts associated with industrial wind turbines. Moreover, the lead author of that study confirmed[18] that the same mechanism that caused the health and annoyance impacts in their study's downwind style turbines is at work in today's upwind turbines. I have furnished a DVD documenting one such experience in CMS Energy's Lakewinds plant. It is the testimony of the family that lives in the home shown on the cover of my document packet.

**Conclusion**

1. PA295 has unconstitutionally mandated instate generation of renewable energy thereby preventing typically far cheaper out-of-state providers of renewable energy from entering our market.
2. PA295 has failed to require empirical measurement of emissions avoidance nor to calculate a cost-per-unit-avoided thus leaving ratepayers and policy makers in the dark regarding the efficacy of the acts stated goal of improving air quality in the most cost effective fashion.
3. PA295 has codified an economically invalid cost comparison between "new coal" generation and wind generation, thereby giving wind promoters an invaluable piece of false propaganda stamped with MPSC's seal of approval.
4. PA295 and its de facto wind mandate has devastated our rural regions with massive industrial wind projects that even the National Academy of Sciences concedes is an expensive and dubious means of avoiding emissions.

Therefore:

The statewide supporters of the IICC hereby petition this committee to replace PA295's ideologically driven energy policy with policy that is driven by sound science. For the sake of Michigan's economy we must pursue energy policy that gives us a regional cost advantage. Wind energy fails this test. Further, if further emissions reductions are to be a policy goal, then wise policy must include empirical measurement so that the most cost effective means of achieving those reductions is encouraged. Wind energy fails this test as well.

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[17] Acoustic Noise Associated with the MOD .. 1 Wind Turbine: Its Source, Impact, and Control http://www.nrel.gov/docs/legosti/old/1166.pdf

[18] https://www.wind-watch.org/news/2013/07/23/newer-wind-turbines-could-be-just-as-harmful-as-prototypes/